

Response Under 37 C.F.R. 1.116

Applicant: Gary B. Gordon et al.

Serial No.: 09/812,252

Filed: March 19, 2001

Docket No.: 10010189-1

Title: IMPEDANCE SENSING SCREEN POINTING DEVICE

REMARKS

This is responsive to the Final Office Action mailed May 10, 2006. In that Office Action, claims 1-35 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gillespie et al., U.S. Patent No. 5,880,411 ("Gillespie").

With this Response, Applicant respectfully traverses the rejection of claims 1-35. Claims 1-35 remain pending in the application and are presented for reconsideration and allowance.

Examiner's Response to Arguments

In the Response to Argument section of the present Office Action, the Examiner stated that:

Applicant argues that the cited reference, Gillespie et al. (USPN 5880411) does not teach generating movement data based on a comparison of successively generated sets of pixel values. Applicant also argues that Gillespie does not teach correlating at least one version of a first one of the digital images with at least one version of a second one of the digital images to generate motion data across the sensing elements by the appendage.

However, as shown in Fig. 1, Gillespie teaches an outputs of X input processing circuitry 12 and Y input processing circuitry 14 being presented to arithmetic unit 16, which uses the digital information to derive digital information representing the position and pressure of the finger 8 on a sensing plane 10 (col. 9, lines 3-7). Gillespie also teaches that outputs of the arithmetic unit 16 are also directed to gesture unit 20 (col. 9, lines 29-34), which is used to recognize certain finger gestures performed by a user on sensing plane 10. Gillespie elaborates the gesture unit 20 in terms of determining whether a drag gesture is continuing or is being ended and a new finger action begun by comparing the lift-off finger position and the touchdown finger position (Fig. 1 (20), Fig. 14 (280,286) and col. 36, lines 56-65).

Thus clearly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Gillespie's gesture unit (20) as configured in Fig. 1 notably with an arithmetic unit (16) for the purpose of quantifying the movement of a finger on the sensing plane (10) as taught Gillespie (see Fig. 14 and Fig. 20). (Office Action at para. no. 2, pages 2-3).

One of the requirements of establishing a *prima facie* case of obviousness is that "the prior art reference (or references when combined) must teach or suggest all the claim limitations." MPEP § 2143. The Examiner has acknowledged that "Gillespie does not

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specifically teach 'a controller configured to generate movement data based on a comparison of successively generated sets of the pixel values, the comparison including comparing a first one of the sets with at least one pixel shifted version of a second one of the sets, the movement data indicative of motion of the tip of the digit across the sensing elements'', as recited in independent claim 1. (Office Action at para. no. 3, page 4). By not identifying any specific teaching in Gillespie regarding the limitation "correlating at least one version of a first one of the digital images with at least one version of a second one of the digital images to generate motion data indicative of motion across the sensing elements by the appendage" in independent claim 19, the Examiner appears to be implicitly acknowledging that this limitation is not taught by Gillespie. Since Gillespie does not teach or suggest each and every limitation of independent claim 1 or independent claim 19, the Examiner has not established a *prima facie* case of obviousness of claim 1 or claim 19.

Since Gillespie does not teach or suggest each and every limitation of claim 1 and claim 19, it is not clear if the Examiner is relying on Official Notice, or the concept of inherency, in the rejection of these claims. However, as indicated in the Manual of Patent Examining Procedure, "[o]fficial notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well known." MPEP § 2144.03(A). "It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well known." *Id.* (emphasis in original). The limitations in claims 1 and 19 that the Examiner appears to have acknowledged are not explicitly taught or suggested by Gillespie are not well known facts that are capable of instant and unquestionable demonstration as being well known, and it would be inappropriate to simply rely on official notice in this case.

The missing limitations are also not inherent in Gillespie. As the Federal Circuit has stated, "[i]nherent anticipation requires that the missing descriptive material is 'necessarily present,' not merely probably or possibly present, in the prior art." *Trintec Indus., v. Top-U.S.A. Corp.*, 63 USPQ2d 1597, 1599 (Fed. Cir. 2002) (quoting *In re Robertson*, 49 USPQ2d 1949,

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1950-51 (Fed. Cir. 1999)). Since Gillespie does not include a controller that generates movement data in the manner recited in claim 1, nor does Gillespie correlate images to generate motion data as recited in claim 19, this missing limitations are not "necessarily present" in Gillespie.

In addition, even when obviousness is based on a single reference, there must be a showing of suggestion or motivation to modify the teachings of that reference. *In re Kotzab*, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). In the present case, the Examiner has not identified any suggestion or motivation to modify the Gillespie reference in a manner that would produce the claimed invention. Rather, despite this issue being raised in Applicant's previous Response, the Examiner has again simply indicated in the above block quote that it would be possible to modify Gillespie, without identifying any teaching, suggestion, or motivation, to make such a modification. Applicant respectfully submits that no motivation for the Examiner's proposed modification can be found in Gillespie. In fact, not only is there no teaching, suggestion, or motivation disclosed in Gillespie to modify the gesture unit 20 to generate motion data as proposed by the Examiner, such a modification would not appear to make logical sense since the system disclosed in Gillespie already includes a motion unit 18. By failing to identify a motivation to modify the Gillespie reference, the Examiner has failed to provide an essential element required to establish a *prima facie* case of obviousness.

The Examiner's specific rejections and arguments are addressed in further detail below.

35 U.S.C. §103 Rejections

The Examiner rejected claims 1-35 under 35 U.S.C. §103(a) as being unpatentable over Gillespie et al., U.S. Patent No. 5,880,411 ("Gillespie"). Independent claim 1 recites "the controller configured to generate movement data based on a comparison of successively generated sets of the pixel values, the comparison including comparing a first one of the sets with at least one pixel shifted version of a second one of the sets, the movement data indicative of motion of the tip of the digit across the sensing elements." With respect to independent claims 1 and 19, the Examiner stated that:

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Gillespie does not specifically teach "a controller configured to generate movement data based on a comparison of successively generated sets of the pixel values, the comparison including comparing a first one of the sets with at least one pixel shifted version of a second one of the sets, the movement data indicative of motion of the tip of the digit across the sensing elements".

Gillespie on the other hand teaches gesture unit 20, which is used to recognize certain finger gestures performed by a user on a sensing plane 10. Gillespie teaches the gesture unit 20 in terms of determining whether a drag gesture is continuing or is being ended and a new finger action begun by comparing the lift-off finger position and the touchdown finger position (Fig. 1 (20), Fig. 14 (280, 286) and col. 36, lines 56-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Gillespie's gesture unit (20) shown in Fig. 1 for the purpose of quantifying the movement of a finger on the sensing plane (10) as taught Gillespie (see Fig. 14 and Fig. 20). (Office Action at para. no. 3, page 4).

The gesture unit 20 disclosed in Gillespie generates button-press signals that simulate a three-button (Left, Middle, Right) pointing device. (See, e.g., Gillespie at Fig. 14, and col. 33, lines 27-33). The disclosure regarding comparing a lift-off finger position with a touch-down finger position for the purpose of generating button-press signals does not teach or suggest generating movement data based on a comparison of successively generated sets of pixel values, the comparison including comparing a first one of the sets with at least one pixel shifted version of a second one of the sets, the movement data indicative of motion of the tip of the digit across the sensing elements, as recited in independent claim 1. There is no teaching or suggestion in Gillespie that the gesture unit 20 could or should be configured to generate movement data as recited in independent claim 1. Thus, Gillespie does not teach or suggest each and every limitation of independent claim 1.

In addition, as addressed above, even when obviousness is based on a single reference, there must be a showing of suggestion or motivation to modify the teachings of that reference. *In re Kotzab*, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). In the present case, the Examiner has not identified any suggestion or motivation to modify the Gillespie reference in a manner that would produce the claimed invention. By failing to identify a motivation to modify the Gillespie

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reference, the Examiner has failed to provide an essential element required to establish a *prima facie* case of obviousness.

Independent claim 19 recites "correlating at least one version of a first one of the digital images with at least one version of a second one of the digital images to generate motion data indicative of motion across the sensing elements by the appendage". As described above, Gillespie does not teach or suggest "the controller configured to generate movement data based on a comparison of successively generated sets of the pixel values, the comparison including comparing a first one of the sets with at least one pixel shifted version of a second one of the sets, the movement data indicative of motion of the tip of the digit across the sensing elements", as recited in independent claim 1. For at least the reasons described above with respect to independent claim 1, Gillespie also does not teach or suggest the above-quoted limitations of independent claim 19.

In view of the above, Gillespie does not teach or suggest each and every limitation of independent claim 1 or independent claim 19. Applicant respectfully requests removal of the rejection of claims 1 and 19 under 35 U.S.C. § 103(a), and requests allowance of these claims. Since dependent claims 2-18 and 20-35 further limit patentably distinct claim 1 or 19, claims 2-18 and 20-35 are believed to be allowable over the cited reference. Allowance of claims 2-18 and 20-35 is respectfully requested.

In addition, dependent claims 2-18 and 20-35 are further distinguishable over the cited reference. For example, dependent claim 11 recites "a conductive rim formed around a perimeter of the plurality of sensing elements." Dependent claim 12 is dependent on claim 11 and recites "wherein the controller further comprises an alternating current signal source coupled to the conductive rim for driving the conductive rim with an alternating current signal." Dependent claim 27 recites "wherein a conductive rim is formed around a perimeter of the plurality of sensing elements, the method further comprising: driving the conductive rim with an alternating current signal." The Examiner has not identified any disclosure in Gillespie that teaches or suggests a conductive rim, or driving a conductive rim with an alternating current signal, as recited in claims 11, 12, and 27.

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Dependent claim 13 recites "wherein the controller further comprises an automatic gain controller coupled to the alternating current signal source for controlling the magnitude of the alternating current signal." The Examiner has not identified any disclosure in Gillespie that teaches or suggests an automatic gain controller as recited in claim 13.

Dependent claims 17 and 30 recite "wherein the pitch of the plurality of sensing elements ranges between about 10 to 1000 microns." Dependent claims 18 and 31 recite "wherein the pitch of the plurality of sensing elements ranges between about 25 to 250 microns." The Examiner has not identified any disclosure in Gillespie that teaches or suggests sensing elements with a pitch as recited in claims 17, 18, 30, and 31. Similarly, the Examiner has not identified any disclosure in Gillespie that teaches or suggests an array with the dimensions recited in claims 32-35.

Since dependent claims 2-18 and 20-35 further limit patentably distinct claim 1 or 19, and are further distinguishable over the cited reference, allowance of claims 2-18 and 20-35 is respectfully requested.

CONCLUSION

In view of the above, Applicant respectfully submits that pending claims 1-35 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-35 is respectfully requested.

No fees are required under 37 C.F.R. 1.16(h)(i). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-3718.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Response should be directed to either William P. O'Meara at Telephone No. (303) 298-9888, Facsimile No. (303) 297-2266 or Jeff A. Holmen at Telephone No. (612) 573-0178, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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P.O. Box 1920

Denver, Colorado 80201-1920

Respectfully submitted,

Gary B. Gordon et al.,

By their attorneys,

DICKE, BILLIG & CZAJA, PLLC

Fifth Street Towers, Suite 2250

100 South Fifth Street

Minneapolis, MN 55402

Telephone: (612) 573-0178

Facsimile: (612) 573-2005

Date: 7/10/06
JAH:jmcJeff A. Holmen
Jeff A. Holmen
Reg. No. 38,492**CERTIFICATE UNDER 37 C.F.R. 1.8:**The undersigned hereby certifies that this paper or papers, as described herein, are being facsimile transmitted to the United States Patent and Trademark Office. Fax No. (571) 273-8300 on this 10th day of July, 2006.By: Jeff A. Holmen
Name: Jeff A. Holmen